Chemistry I: Gas Laws: Reference Sheet

$$\frac{(P_1V_1)}{T_1} = \frac{(P_2V_2)}{T_2} \qquad P_1V_1 = P_2V_2 \qquad PV = nRT$$

$$\frac{V_1}{n_1} = \frac{V_2}{n_2} \qquad \frac{V_1}{T_1} = \frac{V_2}{T_2} \qquad PV = \frac{gRT}{MW}$$

$$d = \frac{(P)(mm)}{(R)(T)} \qquad \frac{R_a}{R_b} = \frac{\sqrt{mw_b}}{\sqrt{mw_a}} \qquad \text{molar mass} = \frac{(\#\,g)(R)(T)}{(P)(V)}$$

$$P_{gas} = P_{total} - P_{water\ vapor} \qquad K = {}^{o}C + 273$$

Selected Universal Gas Constants (R):

$$0.082 \frac{\text{L-atm}}{\text{mol-K}} \qquad 62.4 \frac{\text{L-mmHg}}{\text{mol-K}}$$

$$82 \frac{\text{mL-atm}}{\text{mol-K}} \qquad 62360 \frac{\text{mL-mmHg}}{\text{mol-K}}$$

Standard Pressure Units:

1 atmosphere (atm)	76 cm of Hg	29.92 inches of Hg
760 mm of Hg	0.760 meters of Hg	14.7 lbs/ in^2
760 Torr	1013.25 millibars	101.33 kPa